

REMARKS

Claims 7-9, 12 and 14-20 are pending in this application. By this Amendment, claims 12 and 14 are amended. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

A. The Office Action rejects claims 7-9 and 12-20¹ under 35 U.S.C. §103(a) over Applicants' Admitted Prior Art (hereafter "AAPA"), and U.S. Patent No. 5,546,098 to Moriconi and U.S. Patent No. 5,736,973 to Godfrey et al. (hereafter "Godfrey"). The rejection is respectfully traversed.

Applicants respectfully submit even if combined, AAPA, Moriconi and Godfrey do not teach or suggest at least a feature of a timing control unit located on a module control board that also has a back light unit driver for driving a back light unit of the panel module and combinations thereof as recited in claim 7. Further, the asserted combination fails to teach or suggest a notebook computer having a body module with a main printed circuit board and a driving circuit mounted on the main printed circuit board that drives the drivers in the display module, wherein the driving circuit is a module control board mounted on the main printed circuit board, and wherein the module control board drives the back light unit and combinations thereof as recited in claim 12.

¹The present Office Action rejects claims 7-9 and 11-19 under 35 U.S.C. §103. Since claim 11 was canceled and claim 20 was added by the November 19, 1998 Preliminary Amendment, this Amendment addresses the rejection of claims 7-9 and 12-20.

In contrast, and as indicated in the Office Action, Moriconi discloses that display circuitry (asserted to correspond to the timing control circuit) is located in a system body module different from a panel module. Thus, Moriconi fails to teach or suggest a circuit board, which is loaded with both a timing control unit and a back light driver and combinations thereof as recited in claim 7.

AAPA Figure 1 discloses a panel module 22 including a timing control circuit chip in a timing control board 16 and a separate back light driver 26. See at least Figure 1 of AAPA. Thus, the timing control circuit chip and the back light driver 26 disclosed in AAPA are located on two different circuit boards separated from each other.

In preferred embodiments according to the present invention, a timing control circuit on a timing control board 62 is located on a printed circuit board 80 loaded with a back light driver 66. See at least Figure 15, page 19, lines 28-31, and page 16, line 23-page 17, line 33 of the present specification. In another preferred embodiment according to the present invention, a timing control circuit on the timing control board 62 is located in a system body 52 together with the back light driver 66 on the printed circuit board 80. The timing control board 62 is directly connected to a graphic control board 60. See at least Figure 18 and page 19, line 33-page 20, line 11 of the present specification.

Configurations disclosed in preferred embodiments according to the present invention allow elements of a notebook computer and connections therebetween to be reduced in number,

and an increase of the effective display screen area of a panel module is obtained. Further, the thickness of the display portion can be reduced.

The Office Action admits that AAPA and Moriconi fail to disclose that a backlight driver is integrated in a printed circuit board. The Office Action further asserts Godfrey discloses in Figure 3 an integrated display system in which a backlight driver is integrated in a printed circuit board. See page 3, lines 1-3 of the October 10, 2001 Office Action.

1. Applicants respectfully submit that it would not have been obvious to combine Godfrey with AAPA and Moriconi. Godfrey discloses Personal Digital Assistants (PDAs) that do not separate a display from a system body, but rather are one integrated small piece. Godfrey further discloses that PDAs and portable computers are quite different in form and usage. See column 1, lines 20-22. Additional distinguishing features between PDAs and portable computers is a PDA is preprogrammed for a specific use and a pointed pen stylus and handwriting recognition software alone is used to simplify data entry. See column 1, lines 19-63 of Godfrey. Thus, as Godfrey discloses PDAs in one integrated piece, Applicants respectfully submit Godfrey merely discloses all elements of a PDA that is hand held are contained in a single integrated unit and that does not teach or suggest particular connections or locations for elements of a system for a portable computer having a system module and a panel module with a display.

2. However, even if AAPA, Moriconi and Godfrey had been combined, the combination would not have resulted in the claimed invention recited in claims 7 and 12. As

described above, AAPA and Moriconi do not teach or suggest that a backlight unit driver and a timing control unit are incorporated into a module control board. In particular, Applicants respectfully submit that a printed circuit board 24 including backlight driver circuit 22 in Godfrey is an additional stand alone circuit board attached to a LCD screen 14. Applicants respectfully submit the PCB 24 is additionally attached or incorporated in the PDA to provide a display backlighting system in a PDA under circumstances where none was originally incorporated. See column 2, lines 22-33 of Godfrey. Godfrey does not teach or suggest that the PCB 24 provides a main circuit board of the PDA or even timing control circuit for drivers of the LCD screen 14. See AAPA Figure 1; see also Figures 6 and 8 and column 4, line 8-column 5, line 17; column 6, lines 37-67 and claim 20 of Godfrey. Thus, Godfrey is quite different in form and usage from the present invention. The present invention is to connect effectively the main board of the system body and the display portion with a display separated from each other. Accordingly, Applicants respectfully submit that even if the references were combined, Godfrey does not teach or suggest more than Applicants' AAPA Figure 1 that a timing control board 16 and a backlight driver 26 can be incorporated separately in an integrated housing.

3. As described above, AAPA, Moriconi and Godfrey, individually or in combination, would not result in at least features of a module control board or a main printed circuit board in a panel module having a timing control unit for driving the drivers and a back light unit driver for driving the back light unit and combinations thereof as recited in claim 7 and

a notebook computer having a body module with a main printed circuit board and a driving circuit mounted on the main printed circuit board that drives the drivers in the display module, wherein the driving circuit is a module control board mounted on the main printed circuit board, and wherein the module control board drives the back light unit and combinations thereof as recited in claim 12.

For at least the reasons set forth above, Applicants respectfully submit claims 7 and 12 define patentable subject matter. Claims 8-9 and 14-20 depend from claims 7 and 12, respectively, and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Claim 13 is canceled. Withdrawal of the rejection of claims 7-9 and 12-20 under 35 U.S.C. §103 is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney, **Carl R. Wesolowski**, at the telephone number listed below.

Serial No. 09/137,842

Docket No. YHK-007

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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Enc: Petition for Extension of Time

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Amended Claims With Mark-ups to Show Changes Made

12. (Twice Amended) A notebook computer, comprising:

a display module, wherein the display module comprises,

a display device that displays data, and

drivers mounted in the display module that drive the display device;

5 a body module, wherein the body module comprises,

a main printed circuit board that processes the data for the display device,

and

a driving circuit mounted on the main printed circuit board that drives the

drivers in the display module; and

10 a connecting circuit that connects the drivers and a back light unit with the driving

circuit, wherein said connecting circuit comprises,

a flexible printed circuit film that connects between the drivers and the

driving circuit, and

a conductive line that connects between the driving circuit and the back

15 light unit, wherein the display module further comprises the back light unit that irradiates the

display device, and wherein the driving circuit is a module control board mounted on the main

printed circuit board, and wherein the module control board drives the back light unit.

14. (Twice Amended) The notebook computer of claim [13] 12, wherein the conductive line connects the back light unit with the module control board.